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Abstract

The present paper analyzes transitions to homeownership among immigrant groups and natives in West Germany over a 24–year period from 1984 to 2008. Using data from the German Socioeconomic Panel (GSOEP), we find that everything else being equal, Turks, ex-Yugoslavians, Southern Europeans and Eastern Europeans do not display any differences in transitions into homeownership. Immigrants from wealthy western countries and native Germans possess similar and higher transitions into homeownership. Factors exhibiting a positive effect on transitions to homeownership include years since migration, marital status, age, income and education.

Key words: homeownership; German Socioeconomic Panel (GSOEP); event history analysis

Introduction

Over the past decades a large number of studies on the participation of immigrants in the labor market has emerged in the field of sociological research. In recent years an increasing number of studies has also explored immigrants' participation in the housing market (e.g., Alba and Logan, 1992; Balakrishnan and Wu, 1992; Krivo, 1995; Lewin-Epstein, Elmelech and Semyonov, 1997; Myers and Lee, 1998; Lewin-Epstein and Semyonov, 2000; Semyonov, Lewin-Epstein and Davidov, 2003; Sinnig, 2006; Constant, Roberts and Zimmermann 2007; Haan, 2007). These studies all share the view that homeownership is an indicator of success in the labor market and of integration into the host society. In these studies, immigrants from different countries of origin are characterized by different rates of homeownership. There are only few studies of immigrants' incorporation into the German society that considered the aspect of homeownership. Those which do (e.g., Sinnig, 2006; Constant et al., 2007) did not investigate differences in homeownership patterns among immigrant groups *from different countries of origin*. This neglect is unfortunate since studying the patterns of homeownership among different immigrant groups and their determinants may provide us a better understanding of their incorporation and integration into the society.

In this study we contribute to the literature on housing and immigration by exploring transitions into homeownership among immigrant groups and natives in West Germany during the years 1984 to 2008. The large immigration flows into (the former West) Germany since the 1950s have situated it rather high on the list of immigrant-receiving countries (Raijman et al., 2008). Although traditionally, at least up to the beginning of the 21st century, it was not considered an immigration country, in reality a large part of German society is composed of immigrants of different origins (Green, 2004)[1]. This makes Germany an interesting case for studying housing patterns and differences among immigrants and natives. Previous studies, in other countries and in Germany alike (but over shorter periods of time), lead us to expect immigrants to possess lower transition rates into homeownership compared to natives (see, e.g., Sinnig, 2006). We will study whether this finding applies also for the German case. In addition, we will investigate whether there is an effect of financial and

human capital in the form of income and education on homeownership as typically found in other countries, whether age and time since migration to the host society contribute to homeownership as demonstrated in previous studies of various societies, and whether and to what extent different immigrant groups in Germany possess different rates of transition to homeownership. After all, if we assume that homeownership is an indication of integration in the host society, then findings of differences in transitions to homeownership among immigrant groups may also indicate significant variations in integration processes of immigrants in Germany (Myers and Lee, 1996).

In particular, in this study, we employ a 25-year panel data set collected in Germany (the German Social Economic Panel, GSOEP) to address the following questions: (1) whether and to what extent transitions into homeownership differ among immigrant groups in (West) Germany; (2) whether length of residence can account for disparities among immigrants in (West) Germany in transitions into homeownership; (3) whether sociodemographic characteristics such as household income, education, age, family status, German ethnicity and citizenship provide further explanations for differences in transitions into homeownership; and (4) whether and to what extent transitions into homeownership are lower among immigrants compared to native Germans. To answer these questions, we conduct an event history analysis. The use of a panel data set enables us to be in a position to study transitions into homeownership among immigrant groups from a dynamic rather than a static perspective. First, we start with an overview of the theoretical considerations of the determinants of homeownership.

Theoretical Aspects: Homeownership and Immigrants

For most people in the western world, homeownership is the most important component of wealth. It is often regarded as a "stake in the system" (Blum and Kingston, 1984; Kurz and Blossfeld, 2004). It also represents for many people a symbol of achieving high living standards, success and status and having better physical and psychological health and greater life satisfaction (Constant et al., 2007). For immigrants, buying a home represents an important step in the process of incorporation. It is considered an indicator of a long-term

settlement in the host society and, in many cases, buying a home is in fact a declaration of willingness to stay in the new country and an indication of affiliation with the host society (e.g., Alba and Logan, 1992; Constant et al., 2007; Lewin-Epstein and Semyonov, 2000).

Housing can be enjoyed without being "consumed", and often its value has increased far beyond the interest rate (Baldassare, 1986; Forrest, Murie, and Williams, 1990). Thus, in many cases, housing has proved to be a wise investment. Housing provides security not only against inflation rates, but also in old age, once mortgage payments are completed. From this point of view, buying a home may improve the economic and social position of an immigrant in the society. Furthermore, wealth accumulated in family housing has substantial implications for inheritance, intergenerational transfers, and future accumulation of wealth and well-being as housing can be bequeathed to the children (Constant et al. 2007; Di, Belsky and Liu, 2007). It may have a strong impact on the persistence of inequality across generations (Saunders, 1978; Lewin-Epstein and Semyonov, 2000). Future generations, who inherit a home, are freed from the burden of rental payments, and can thus more easily accumulate further wealth and improve their economic well-being. This aspect plays an important role in understanding inequality among different societal groups.

Four major explanations have been advanced in the literature for homeownership among immigrants. The first explanation suggests that homeownership is a result of various sociodemographic and household characteristics. It has been found that success in the labor market reflected at the level of income or income brought along from the country of origin is the most important factor influencing the decision of buying a home. Labor market activity produces financial resources that can be used to buy a home. Studies in the USA, Canada, Australia, Germany and Israel (see, e.g., Alba and Logan, 1992; Bourassa, 1994; Clark et al., 1997; Haan, 2007; Krivo, 1995; Oliver and Shapiro, 1995; Lewin-Epstein et al., 1997; Semyonov et al., 2003; Sinnig, 2006) provide support for this finding. Furthermore, researchers have found that human capital and education skills positively affect homeownership (Alba and Logan, 1992; Coulson, 1999; Krivo, 1995; Semyonov et al., 2003; Sinnig, 2006; Edmonston, 2004). It has been reasoned that education reflects not only present earnings but potential future earnings and potential employment stability as well which, in turn, positively influence homeownership. Therefore, we expect that transitions to

homeownership will rise with increasing earnings and education. This literature also suggests that homeownership is affected by sociodemographic characteristics such as age and marital status. Since the accumulation of necessary funds for buying a home may last many years, we expect transitions to homeownership to rise also with age. However, a nonlinear relationship between the age and transition to homeownership might exist, with decreasing homeownership likelihood in old age, as previous studies have shown (Alba and Logan, 1992; Painter, Gabriel and Myers, 2001; Sinnig, 2006). Married couples and families are also expected to have a higher rate of homeownership. Married couples are less flexible in their ability to move from place to place than singles. Many of them need the stability that a home of their own can provide. These relations were demonstrated in previous studies (e.g., Lewin-Epstein and Semyonov, 2000; Mulder, 2004; Haan, 2007).

The second explanation advanced in the literature for homeownership among immigrants contends that homeownership differences are a function of time since migration. Along with the period of time spent in the new country, we expect immigrants to increasingly assimilate with the host society and incorporate themselves into the daily life in the new country (e.g., Borjas and Tienda, 1993; Raijman and Semyonov, 1995). According to models of assimilation and succession (Chiswick, 1979; Poston, 1994), immigrants enter society at the bottom of the stratification system. They tend to take the least desirable jobs and to live in poor neighborhoods. Over the course of time, however, immigrants are likely to experience upward social and economic mobility. They acquire knowledge of the new society and access to networks. Consequently, they are able to attain well-paid jobs and a better knowledge of the society, move up in the social system, and, indeed, after a long stay in the country, immigrants are in a better position to purchase homes. Accordingly, with the passage of time since migration, they are expected to have higher rates of homeownership (Constant, Gattaulina and Zimmermann, 2006; Constant et al., 2007; Friedman and Rosenbaum, 2004; Myers and Lee, 1996). Research on immigrants in Australia, the United States, Germany and Israel reaffirms this expectation (Alba and Logan, 1992; Bourassa, 1994; Lewin-Epstein et al., 1997; Lewin-Epstein and Semyonov, 2000; Sinnig, 2006). These two explanations are not mutually exclusive, but rather complementary, and we will test their effect on homeownership among different immigrant groups in Germany.

Yet a third explanation was forwarded in the literature for homeownership differences that proposes that immigrant groups may have distinct preferences for homeownership (Sinnig, 2006). These preferences could be a result of cultural differences (van Kempen and Özüekren, 2002). For example, Balakrishnan and Wu (1992) suggest that Asian immigrants in Canada have a stronger desire to become homeowners than other immigrant groups, because owning a home can facilitate their acceptance by the host society. One may expect that also in Germany the importance of buying a home is rated differently by the various immigrant groups and, as a consequence, they will exhibit distinct rates of transition into homeownership. However, to the best of our knowledge, no data provides information about such possible attitudinal differences in the German context and we cannot test this possibility.

A fourth explanation suggests that homeownership is lower among immigrants compared to natives because they might face higher credit barriers because of lower wages, lack of collateral and higher flight risk (Constant et al., 2007; Sinnig, 2006). Furthermore, some authors suggest that financial institutions discriminate against immigrants irrespective of their level of income and collateralization (Chiteji and Stafford, 1999). These factors may vary among various immigrant groups, and some immigrant groups may face more difficulties to become homeowners than others. Indeed, it has been shown in previous studies that the national or regional origin of immigrants represents an important factor for the transition to homeownership (Borjas, 2002; Semyonov et al., 2003).

In sum, relying on our theoretical considerations and findings in previous studies, we expect that transitions into homeownership increase with increasing income (H1), education (H2), age (H3), and years since migration (H4), and that married people are more likely to own a home (H5). Furthermore, we expect natives to display higher transition rates into homeownership compared to immigrants (H6). Before turning to the multivariate analysis to study determinants of homeownership among immigrants and natives in Germany, in the next section we will provide an overview of the German context.

The German Context

Immigrants and Housing Policies in Germany

The high rate of 12.9% foreign-born population[2] in 2003 (OECD, 2008) situates Germany relatively high on the list of immigration-receiving countries in Western Europe and in the world (Raijman et al., 2008; Rotte, 2000). Since 1954, West Germany has seen a net migration of about 9 million people, either in the form of labor migrants (the so-called 'guest workers'), political asylum seekers or in the process of family reunification[3]. Whereas after the Second World War and in the beginning of the 1950s immigrants were mainly refugees, in the 1960s until 1973[4] they consisted mainly of labor migrants from Mediterranean countries, and from the 1980s onward it was asylum seekers who came to West Germany in increasing numbers (Green, 2001). About half of the immigrants have lived for 10 years or longer in Germany, and one third of them have lived in Germany for more than 20 years (Zandonella, 2003). Many of them came from Turkey, southern Europe and the former Yugoslavia (Constant et al., 2007; for a detailed review see, e.g., Green, 2001, Kurthen, 1995 or Martin, 2002). Thus, immigration was comprised of war refugees and ethnic Germans, labor migrants and asylum seekers (Green, 2001; Koopmans, 1999; Kurthen, 1995).

The recruitment of 'guest workers' beginning in the 1950s was initially planned to include young males, who come for two or three years to West Germany to help meet the economy's rapid expansion. After this period of time they were supposed to return to their home country and be replaced by 'fresh labor' (the so-called rotation principle; see Green 2001). In such a way, one hoped to avoid investing costs that are related with permanent migration. This was only partly successful, since it was costly for the industry to train new employees, and thus in the 1970s the transformation into permanent migration began. After 1973, wives and children started joining the mostly male labor migrants (Green, 2001). Furthermore, until the middle of the 1970s the number of Asylum applications was rather low. However, after 1976 it increased sharply. After a temporary drop it increased again by 1988. Most immigrants settled by then into the large metropolitan areas.

Between 1988 and 1993 and after the end of the Cold War and the reunification of East and West Germany, a growing number of 'Aussiedler', that is, German settlers in

Eastern Europe and Central Asia, and other new labor immigrants came to West Germany (Kurthen, 1995). The first of this group arrived from Poland, Romania and the former Soviet Union (Green, 2001). The basic difference between the 'Aussiedler' and many of the previous immigrants is that, for the most part, the 'Aussiedler' were entitled to German citizenship upon arrival to Germany since they were considered ethnic Germans by law (Joppke, 1999; Raijman, Semyonov and Schmidt, 2003). Actually, this group of immigrants was never officially considered to be "immigrants". Rather, they were considered to be (foreign-born) "resettlers" who acted upon their constitutional right to return to their country of origin (Joppke, 1999). Their numbers increased dramatically and, in 1990, peaked to 400,000. As a result, an annual immigration quota of 225,000 was set in 1993 for ethnic German immigration (Green, 2001), reducing their incoming numbers (Kurthen, 1995). In addition, during these years there was also a considerable increase in the number of asylum seekers, originating largely from Eastern Europe. Nowadays, the percentage of foreign-born population in Germany corresponds to that of the United States, and is similar to other EU countries, such as Austria, Belgium or Sweden (Biffl, 2006; OECD, 2008)[5].

In spite of continuous growth over time and even a trend toward convergence of homeownership rates of foreign-born households compared to natives in Germany (Sinnig, 2006), official statistics still report relatively low rates of homeownership of foreign-born households. As of 2002, only 15.1% of the immigrant families in Germany were home owners, compared to about 43% of native German households (Statistisches Bundesamt, 2006). However, homeownership rates vary among different immigrant groups. Unarguably, understanding the factors contributing to rates and differences of homeownership among immigrants is very relevant, considering the large foreign-born immigrant population in Germany. Whereas certain factors determine homeownership *disparities* among immigrants and natives, there are other factors that influence the transition into homeownership of immigrants and natives in Germany alike, where housing provision forms a cornerstone of social policy (Deutsch and Tomann, 1995).

Germany's average homeownership rate of about 43% ranks lower than most other European countries such as the UK or Spain with average rates of 70 to 80% (Voigtländer,

2009). The low homeownership rate in Germany may be a result of three major factors. The first is the existence of an extensive and high quality standard subsidized social housing sector. Second, homeowners in Germany did not benefit from similar financial advantages to such an extent. Third, the rental costs were low and have not increased at unproportional rates, as in other European countries (Voigtländer, 2009).

After the Second World War, shortage of housing was one of the most severe problems facing Germany, with about 4.5 or 5 million homes that were either damaged or destroyed. Since this shortage could not be eliminated efficiently by the private sector, the first Housing Law (1950) was introduced to provide suitable housing for the broad population. It was promoted by direct subsidies, guarantees and exemptions from real property tax. As a result, by 1962 Germany was able to reduce its housing shortage drastically, laying the foundation for a developed rental market (Voigtländer, 2009).

Public sector investments made private investments unprofitable. Furthermore, since benefits of social housing were passed on to the tenants to a large extent, it was less expensive to rent than to buy a home. Introducing the second Housing Law (1956) benefitted also owner-occupied housing, but it did not result in a higher number of owner-occupied housing compared to rental housing. This was not only due to the fact that the market for private mortgage financing had not yet been established, but also because of the relatively high quality standards of the rental housing which also attracted the middle classes (Clark et al. 1997; Potter, 1990; Voigtländer, 2009). Furthermore, rents could only be increased if the landlord did not raise them in the past year, and only if he/she could show that they were below the local level. Since the local level was also calculated on the basis of past (low) rents, the rent level remained low (Voigtländer, 2009). Finally, tenancy protection was very rigid, making the alternative of remaining a tenant quite attractive. As a result, although homeownership rates in (West) Germany have been increasing, the increase has been slower than in other western European countries (Clark et al., 1997; Voigtländer, 2009). Thus, this low rate of increase may be accounted for not only by state policies favoring public housing and rental subsidies but also by prudent mortgage lending practices (Deutsch and Tormann,

1995) and the tax treatment of owner occupied housing. Homeowners in other countries benefitted more from the tax rules than German homeowners. Finally, prices of rental housing remained relatively stable over time. Thus, households did not have to rely on homeownership as an insurance against increasing rent (Voigtländer, 2009; see also Bürkner, 1998; Mulder and Wagner, 1998; Kurz, 2004).

Toward the end of the 1980s, there have been a few structural changes in favor of homeownership. The number of publicly-assisted dwellings in West Germany declined because of legislation changes and has consistently decreased ever since. This was a result of a governmental policy to reduce construction of public housing on the one hand, and to diminish their existing number on the other hand. At the same time, subsidies of homeownership have consistently increased. In 1988, the tax advantages and financial support for nonprofit housing enterprises were abolished by law, and in this way eliminated the governmental rental control commitments for their 3.4 million apartments (Häusserman, 1994). This policy has been continuously supported by the different governments in the spirit that government intervention in the housing market should be minimized. Additionally, laws have also been passed in Germany to allow private owners to increase the rent and reduce the governmental protection of the tenants. The 1996 law on tax benefits for homeowners facilitated households of immigrants and natives alike to buy their own homes (Sinnig, 2006).

Next, we will conduct a multivariate analysis to investigate whether transitions to homeownership of immigrants and natives increase with the passage of time, reflecting structural changes in favor of homeownership. We will also investigate whether sociodemographic and household head characteristics as well as time since migration account for differences in homeownership transitions among immigrants in Germany. Furthermore, we will test whether, after controlling for these variables, disparities in homeownership among immigrants and between immigrants and natives remain unexplained.

We examine the *differences* in transitions into homeownership among five immigrant groups that we defined: East Europeans; ex-Yugoslavians; Turks; Southern Europeans and immigrants from other western countries. The latter group represents a relatively small group

of immigrants from wealthy and developed countries. Although it is a small group compared to the other immigrant groups, we differentiate it from other immigrants because it is composed of atypical immigrants for Germany, characterized by high education, high income, and better paying jobs (Statistisches Bundesamt, 2006). To the best of our knowledge there are no previous studies which have investigated the differences in homeownership across these groups in Germany. Therefore, we cannot fall back on the literature to suggest hypotheses regarding differences in housing acquisition. However, previous studies in the American, German and Israeli contexts have shown that, after controlling for several sociodemographic variables including education and income, weaker minority groups that are characterized by lower levels of education and income (e.g., blacks and Hispanics in the USA; north African Jews in Israel) display lower rates of homeownership even after controlling for their disadvantaged socioeconomic characteristics (see, e.g., Semyonov et al., 2003). This logic applies especially to immigrants from Turkey, ex-Yugoslavia and southern Europe in our study.

Data: The German Socioeconomic Panel (GSOEP)

Our analyses are based on the German Socioeconomic Panel (GSOEP)[6], a dataset that enables us to trace the status of homeownership of migrants at the individual and household level over a period of 24 years (25 waves). Because the panel waves are conducted annually, we are able to gain a detailed impression of the transition of tenants to homeownership. Applying a longitudinal perspective allows us to take a close view at the individual-level changes of being a tenant or home owner and when they occur.

The German Socioeconomic Panel (GSOEP) is a representative panel survey of randomly selected private households in Germany that started in 1984 (Wagner, Frick and Schupp, 2007). Its original target population was the residential population of the Federal Republic of Germany in 1984. In addition, *a special sample* of households whose heads were

of non-German nationality and came from the five most important countries for recruiting 'guest workers' (Italy, Spain, Greece, Yugoslavia, or Turkey) was included as well. It is the largest regular survey of foreigners in the Federal Republic of Germany. Immigrants from all other nationalities are covered by the other samples of the GSOEP.

After German reunification in 1989 the GSOEP was supplemented by an additional sample of the residential population of the former GDR in 1990 (which we do not consider in this study). In 1995, a further special sample was added, consisting of immigrants who, for the most part, were ethnic Germans. The purpose of this sample was to cover immigration since 1984 that was not included in the GSOEP. A 'refreshment sample' was selected in 1998 and an 'innovation sample' in 2000. Finally, a 'high income sample' was added in 2003. The analyses presented in this paper are based on responses from native Germans and from respondents who immigrated to West Germany between the ages of 16 and 60 years[7].

Since 1984, respondents have been interviewed on an annual basis. Thus, the time period we cover in this paper (1984 - 2008) includes as many as 25 panel waves in West Germany. All persons included in the sample are even interviewed at different locations as long as they still live in Germany. New interviewees (besides the new subsamples) are either other household members after turning 16 years of age or previously nonsampled persons who move into the same household as sampled persons. Household membership and characteristics might change over time and, thus, the household is not a stable item.

Variables

Table 1 gives an overview of the variables in the analysis. The dependent variable is transition into first homeownership. It receives the value 1 if the respondent transitions to homeownership and 0 if not. People who moved into homeownership are no longer at risk and do not remain in the data set at later time points. The number of homeowners who reverse their status to tenancy at later time points is negligible.

Several independent variables are used to predict the risk of transition into homeownership. For identifying *Country of Origin* of immigrants we use a set of dummy variables which represent the five (rather homogeneous) groups of origin that we defined in

the study: Turkey, ex-Yugoslavia, Southern Europe, Eastern Europe (many of whom are 'Aussiedler'), and western countries[8]. Similar to previous studies (e.g., Constant et al., 2007), these origin dummies are assumed to account for all social, cultural and economic differences between migrants due to their origin, including the influence of different cultural 'appetites' for homeownership (Haan, 2007). They represent the foreign-born including those who received German citizenship, and include both ethnic and nonethnic Germans, but do not comprise second-generation immigrants who were born in Germany. The sixth dummy variable identifies whether one is a native German or not. The category "natives" includes people born in Germany who also lived in Germany and had German citizenship during the time of observation. *Ethnic Germans* and *German Citizenship* are dummy control variables which identify whether the respondent is of German ethnicity and holding German citizenship. Ethnic Germans are entitled to German citizenship upon arrival to Germany. For ethnic Germans, the variable German citizenship is set to zero to control for the effect of citizenship net of the effect of ethnicity. Similarly, for native Germans, the variables German citizenship and Ethnic German are set to zero to analyze the effect of being a native German net of the effects of citizenship and ethnicity.

Dummy variables reporting about the year of observation are coded as *1984-1989, 1990-1994, 1995-1999* and *2000-2008*. *YSM* (years since migration) is the number of years the respondent has resided in Germany at the time of the survey, and *YSM Squared* is the square function of this variable. Both these variables are accounted for in order to find out whether the risk of transition to homeownership decreases again after a certain number of years since migration[9]. Although we expect that the likelihood of transition into homeownership rises with time in the country, it is reasonable to assume that if after a long period of time one has not acquired a home, the likelihood that he/she might do it decreases.

Age is measured in years, and *Age Squared* will predict whether the risk of transition into homeownership decreases with increasing age.[10] Yearly *Household Income* is measured in 10,000 Euros adjusted to the purchasing power of 2006, *Education* accounts for the

number of formal years of schooling and *Married* is a dummy variable informing whether the respondent is married (1) or single (0). Before proceeding with the findings, a brief description of the method used for the data analysis will be given.

Insert Table 1 here

Method

We use discrete time logistic hazard models (Yamaguchi, 1991; Allison, 1992; Singer and Willet, 2003) to analyze the influence of the independent variables on the 'risk' of the event "living in homeownership". Because only annual information on the change in the homeowner status is provided, our data set is organized as a person-year file that allows the estimation of discrete time hazard models as standard logistic regression models.

Measurement begins with the first observation year as a nonhomeowner. Our estimation sample now includes repeated observations of the same person. Tenants are observed until the event "living in homeownership as head of the household or as a partner of the head of the household" occurs the first time in the panel study. A person must be interviewed at least twice to be included in the analysis sample. The data of persons displaying homeownership at their first observation in the panel study are left censored. Since homeownership is addressed in the household questionnaire and not in the personal questionnaire, this operationalization should prevent the possibility that homeownership is mismatched to children, relatives, or other persons living in the household. If for some reason the event occurs, the further history of the person is skipped. Another possibility would be to define the time process by age or years since migration. Since we cannot cover the whole life history or even the immigration history of all sampled persons by our data, we did not do this. Thus the results are restricted to transitions during the observed time period. Persons who re-migrate are included in the risk set as long as they can be observed in the panel study; the data from these persons are then right censored.

The discrete time hazard rate h_{it} corresponds to the probability that a transition from being a tenant to homeownership occurs under the condition that the event has not occurred until then:

$$(1)\ h_{it} = \Pr(T_i = t \mid T_i \geq t)\,.$$

The hazard rate h_{it}, where i stands for the individual and t for the year is estimated by a logistic regression that can be seen from the following formula:

$$(2)\ \log\left(\frac{h_{it}}{1-h_{it}}\right) = \alpha_t + \beta' X_{it}\ .$$

α_t denotes the set of dummy variables controlling time at risk, given the baseline hazard of the model, and ß'X_{it} represents the independent variables.[11]

Findings

Descriptive Overview

Table 1 displays the descriptive statistics of the main variables. The first row in Table 1 shows the number of foreign-born persons from the different countries of origin who are interviewed at least once. The size of the reported sample is larger than the size of the sample reported in the analysis because it includes the total number of observations in the first year, irrespective of whether respondents are homeowners or not. Row 2 displays the percentage of homeownership status in the first year a person was interviewed, which can occur anywhere between 1984 and 2008. The data reveal considerable differences among the different populations. First, as illustrated in Figure 1, the first-year immigrants from western countries have a substantially higher proportion of homeownership (35.2%) compared to other immigrant groups. Native Germans display a similar proportion of homeownership (33.9%). Both groups are followed by Eastern Europeans (13.2%), Southern Europeans (5.5%), ex-Yugoslavians (4.6%) and Turks (4.2%) with significantly lower rates of ownership. Whether these differences are retained after controlling for several sociodemographic variables will be analyzed in the next section. From Row 3 onward, descriptive statistics of the multiple spell data of the variables used for the models are presented. The means across all the person-year data are shown.

Insert Figure 1 here

Looking at the table reveals that, firstly, immigrants from Eastern Europe in particular but also from western countries are more likely to have German citizenship during the panel

study. This is not surprising considering the fact that a large part of the respondents from western countries originated from the European Union. Fifty-five percent of the Eastern Europeans reported that they were ethnic Germans.[12] On average, immigrants from Southern European countries resided in Germany longer than any other group in the sample (22.7 years), followed by immigrants from western countries and ex-Yugoslavians (19.9 years), Turks (18.9 years) and Eastern Europeans (15.8 years). The values of YSM reflect patterns of migration and remigration in Germany. 'Guest workers' from Southern Europe and Turkey already started arriving in Germany in the early 1960s to fulfil the demands of the labor market. Many of them have returned to their own country, family members of those who stayed in Germany have joined them and new labor migrants have arrived. Many immigrants from Eastern Europe, however, arrived in Germany much later on average, shortly before and after the downfall of the iron curtain.

The immigrant subpopulations do not only differ by the percentage of homeownership, citizenship and YSM, but also by socioeconomic characteristics. Immigrants from western countries are characterized by higher levels of education and income than the other immigrant groups. Their level of education and income are even higher than native Germans. There are no marked differences in the income level among the other immigrant groups. However, the education level of Eastern European immigrants is on average higher than that of Turkish, ex-Yugoslavian and Southern European immigrants. One can also see that there are no large differences in the age structure among immigrant groups. The highest mean age in the person-year data is reported for Southern Europeans (41.7 years) followed by ex-Yugoslavians (41.5 years), Eastern Europeans (39.6 years), immigrants from western countries (38.4 years) and Turks (37.3 years). All groups are characterized by similar levels of marriage rates. Native Germans are the youngest in the sample and display the lowest marriage rates.

In the following section, the question of whether and to what extent the likelihood of transition into homeownership between 1984 and 2008 is affected by country of origin, survey year, years since migration and sociodemographic characteristics will be established by multivariate analyses using discrete time logistic hazard models.

Determinants of the Transition into Homeownership

We estimated five nested discrete time logistic hazard models consecutively. The results are displayed in Table 2 in odds ratios. In the first model we tested whether the country of origin has any effect on the likelihood of transition into homeownership. The findings reveal that immigrants from Eastern European and western countries have significantly higher odds ratios for the transition into homeownership (the Turkish immigrants are the reference group). Ex-Yugoslavians and Southern Europeans do not display significantly different transitions to homeownership than Turks.

In the second model, three dummy variables for the period of observation were controlled. It turns out that with the passage of time, the likelihood of transition into homeownership increases. This finding reflects a significant influence of changes in the German policy toward the declining intervention in the housing market and the growing encouragement of homeownership. With the passage of time, more households purchase a home. Controlling for survey year, immigrants from Eastern European and western countries still have a significantly higher risk of transition into homeownership than the reference Turkish group.

In Models 3 and 4, where additional variables are introduced, only immigrants from western countries retain their significantly higher transition into homeownership. Differences in transitions into homeownership among the four groups – Turks, ex-Yugoslavians, Southern Europeans and Eastern Europeans – do not remain significant. In the third model two control variables are introduced: *ethnic German* and *German citizenship*. It turns out that ethnic Germans and German citizens have, as expected, a significantly higher risk of transition to homeownership. Ethnic Germans and German citizens may find it easier to make long-term plans of settlement in Germany. Foreign-born individuals, once acquiring the German citizenship, increase their chances of transition into homeownership significantly.

In the fourth model, we introduce several sociodemographic variables. Several findings are noteworthy here. The strongest effect is evidenced for the marital status variable. Married people, who may be in a higher need of a home of their own, have a higher transition rate into homeownership. Income and education have a positive effect on the risk of transition into homeownership as well. As expected, resources in the form of income and education positively affect the transition to homeownership. Education was repeatedly found

as a catalyst of home acquisition (e.g., in Canada, see Edmonston, 2004; in Israel, see Lewin-Epstein and Semyonov, 2000), and this finding is reaffirmed also in the German context.

Results in Table 2 also reveal a positive relation between age and transitions to homeownership. When age is higher, the time available for the accumulation of resources to buy a home is longer. Furthermore, the effect of the quadratic term of age reveals that after a certain age, transition to homeownership decreases again. A similar pattern is displayed by the variables *years since migration* and *years since migration squared.* With the passage of time since migration, transitions to homeownership are on the rise as we would expect. But after a certain amount of time since migration, transition decreases again. The risk for immigrants, who have not purchased a home after many years in the new country, will not continue to grow constantly over time. Thus, our five hypotheses are supported by the data.

Insert Table 2 here

In spite of the lack of evidence for gaps in homeownership acquisition among four immigrant groups after controlling for our explanatory variables, one may wonder whether the effect of time since migration varies among the groups. To answer this question, we introduced the interaction terms of origin and years since migration into an additional model (which is not presented); however, none of the interaction effects are significant. This finding reveals that the passage of time in Germany has a similar effect on the transition to homeownership among immigrants of different origins. The effects of origin and time since migration are additive, adding in part significant explanations to the variance of transition into homeownership.

In the fifth and final model we introduced the native Germans into the analysis. It turns out that immigrants from western countries and native Germans have significantly higher odds ratios for the transition into homeownership (the native Germans are the reference group in this model). The other immigrant groups display similar, and significantly lower, transitions to homeownership. The other significant effects in Model 4 are also

retained in Model 5. Thus, our sixth hypothesis is supported by the data. In the next section we summarize and discuss the implications of these findings.

Summary and Discussion

Homeownership has implications not only for the present but also for future generations due to the important role played by homeownership on immigrants' economic position in the host society. This study comprehensively examines, from a longitudinal perspective and for the first time, patterns of homeownership and some of its possible determinants for various immigrant groups in West Germany over a 24-year period using the GSOEP data (1984-2008). It addresses the following questions: (1) whether and to what extent transitions into homeownership differ among various immigrant groups; (2) whether length of residence can account for disparities among immigrants in transitions into homeownership; (3) whether income, education, age, and family status provide further explanations for differences in the transition into homeownership; (4) whether and to what extent transitions into homeownership differ among immigrants compared to native Germans. We expected that transitions into homeownership increase with income, education, age and years since migration and that they are higher among married people and among natives compared to immigrants. Most of the previous studies on determinants of housing in West Germany did not focus on immigrants (for exceptions, see, e.g., Constant et al., 2007; Sinnig, 2006); however, this was precisely the goal of the present study. Since no previous studies explored homeownership differences among various immigrant groups in Germany, we could not fall back on these studies to formulate explicit expectations about differences in homeownership patterns among these groups.

We identify some key conclusions in our analysis. First, holding all other variables equal, it turns out that there are no differences in transitions into homeownership among four immigrant groups (Ex-Yugoslavians, Turks, South Europeans and East Europeans). Differences between immigrants from Eastern Europe and the other three groups disappear after controlling for other variables. This result indicates that immigrants are disadvantaged

in the housing market in Germany irrespective of their origin, with the exception of immigrants from western countries. Thus, this result is in line with previous studies in other societies that have indicated that weaker minority groups, characterized by lower levels of education or income, display lower rates of homeownership even after controlling for their disadvantaged socioeconomic characteristics (see, e.g., Semyonov et al., 2003). Immigrants from western countries display higher transition to homeownership. Another key conclusion is that all immigrant groups display gains in homeownership over time holding all other variables constant. This finding is also in line with previous studies that point to a longitudinal increase of homeownership rates among immigrants in Germany (Sinnig, 2006). It may be accounted for partly by increasingly favorable policies toward homeownership in Germany as outlined above. Policy changes in recent decades in Germany made homeownership more desirable for immigrants and natives alike, as evinced in the positive and increasing effect of later time cohorts on the transition to homeownership.

Other results supported our formulated hypotheses on the effect of years since migration and sociodemographic characteristics of the head of household. The passage of time in the host society turns out to be an important determinant of the transition into homeownership. Indeed, purchasing a home requires familiarity with the host society and acculturation, acquisition of language skills, cultural understanding and knowledge, broader social networks, greater institutional knowledge and better access to informational resources (Constant et al., 2007). These are acquired with the passage of time and come about with a significant effect of YSM. This effect was established in other studies in the USA, Australia and Israel and is now reinforced for the German context. YSM does not have substantial interaction effects with the origin variables. Immigrants of different origin are affected by the time length of residence in Germany similarly. The panel design of the study allowed us to take into account both survey year cohorts and time since migration effects.

Sociodemographic variables displayed significant effects on home acquisition as well. We expected income and education to account for some homeownership differences among immigrants in Germany. They provide necessary present and future resources for buying a home. The results demonstrated that similar to other countries, the two variables are important determinants of the transition into homeownership in Germany. It is also demonstrated that, similar to findings in other countries, age and marital status have a positive effect. Older and married individuals are more likely to become homeowners. Older people have a longer period of time behind them to accumulate the necessary resources to buy a home. Married couples are expected to display a stronger preference for homeownership, as they are more in a need of a stable home of their own where they can raise children. A privately owned home insures them from rising rental prices. These expectations were supported by the data in our study. Finally, with the exception of immigrants from western countries and all other things being equal, immigrant groups display significantly lower transitions into homeownership compared to native Germans.

Especially the last finding is of special importance. Housing is considered an asset that provides economic security in the present, in old age and for future generations. It protects individuals from inflation rates, improves their economic position in the society, and can be inherited by future generations. From this point of view, it may have implications for intergenerational transfers and future accumulation of wealth and well-being and have a strong impact on the persistence of inequality across generations. The low homeownership rate of immigrant groups in Germany reinforces their underprivileged position in the German society. Thus, findings of differences in homeownership among immigrants and native Germans are not only a reflection of economic inequality in the present but also of its persistence in the future. This article may provide us a better understanding of some of the causes of such patterns of homeownership of immigrants in Germany.[13]

Notwithstanding these outcomes, there are several limitations in the study. First, findings might be biased due to a selection effect. We cannot analyze the whole life course or

even the whole migration history of the respondents. Because the data are left-censored, and individuals who were homeowners at the first year of observation were not included in the risk set, to some extent we potentially lose some persons who are most likely to become homeowners. This may have led to a bias of the effects. On the other hand, most of the transitions into homeownership of migrants in Germany took place after 1984, our first year of observation and are, therefore, represented in the data.

Furthermore, we did not take into account several variables that may have an effect on the transition into homeownership. First, we did not take into account in the analysis intergenerational transfers of the parents of the respondents. Intergenerational transfers may account for a large part of the variance in transitions into homeownership among immigrants. However, the GSOEP data includes no data on homeownership of respondents' parents in their country of origin. Second, housing differences may also reflect cultural differences (van Kempen and Özüekren, 2002). It may be the case that some groups do not value homeownership as highly as other groups. Such differences in preferences may prevail and warrant more research including the collection and analysis of qualitative data. Future research may address these constraints. Despite these limitations, the GSOEP data has the major advantage of being the only representative German data available which allows researchers to investigate transitions of foreigners and natives into homeownership from a dynamic perspective.[14]

In sum, findings suggest that transitions to homeownership are more widespread among natives, differences in transitions to homeownership among the most immigrant groups are not significant and income, education, age, marital status and years since migration are important determinants of transitions to homeownership. This is of practical importance for the understanding of home acquisition among immigrants and natives in Germany. As homeowners pay no rent, they need a lower income to reach a given standard of living compared with tenants. Immigrant homeownership is paramount in the process of incorporation in the host society, as it represents the basis for the settlement process in the

host society. Thus, it may well be the case that understanding variations in accumulation of housing wealth today among immigrants and natives in the German society is the key for gaining an insight into inequality patterns and integration prospects among future generations.

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Table 1: Descriptive Statistics – Immigrants in West Germany by Country of Origin and Native Germans

	Turkey	Ex-Yugoslavia	Southern Europe	Eastern Europe	Western Countries	West Germany Natives
The number of persons with at least one interview during the period 1984 – 2008 (age of interviewees is between 16 and 60 years)	1,693	649	1,691	1,832	301	23,120
% of homeownership in first year observed	4.2	4.6	5.5	13.2	35.2	33.9
Person year data (means)						
Years of observation (t)						
1984-1989	0.30	0.37	0.41	0.11	0.18	0.20
1990-1994	0.27	0.28	0.28	0.11	0.16	0.18
1995-1999	0.20	0.20	0.17	0.29	0.18	0.18
2000-2008	0.22	0.15	0.14	0.49	0.48	0.43
German Citizenship (t)	0.05	0.04	0.01	0.24	0.10	1
Ethnic German	0	0	0	0.55	0	0
Age (centered around 30) (t)	7.3	11.5	11.7	9.7	9.6	6.9
Age Squared 30 (t)	185.8	252.7	261.3	221.3	197.5	163.9
Years since Migration (t)	18.9	19.9	22.7	15.8	19.9	0
Years since Migration Squared (t)	413.6	447.3	573.0	321.4	519.2	0
Married (t)	0.8	0.8	0.8	0.7	0.7	0.5
Years of Education (t)	9.3	9.5	9.2	10.9	12.0	11.8
Household Income in 10,000 Euros / Year (t)	3.1	3.1	3.3	3.0	3.8	3.3

Note: (t) = time varying (person year data); Data base: GSOEP 1984-2008

Table 2: Discrete Time Cox Models: Transitions to Homeownership of Immigrants in Germany (West) 1984-2008 (Odds Ratio)

	Model 1	Model 2	Model 3	Model 4	Model 5[c]
Country of Origin					
Native Germans	-	-	-	-	1
Turkey	1	1	1	1	0.28***
Ex-Yugoslavia	0.90	0.97	0.97	1.06	0.28***
Southern Europe	0.96	1.09	1.12	1.12	0.28***
Eastern Europe	2.31***	1.53***	0.90	1.00	0.31***
Western Countries	3.05***	2.08***	2.24***	1.89**	0.64
Years of Survey					
1984-1989		1	1	1	1
1990-1994		2.47***	2.41***	2.70***	1.29***
1995-1999		2.88***	2.30***	2.70***	1.41***
2000-2008		4.67***	3.57***	3.90***	1.43***
Ethnic German[b]			2.71***	2.91***	3.48***
German Citizenship[a] (t)			1.97***	1.92***	2.02***
Age (centered around 30) (t)				1.02	1.04***
Age Squared (Age centered around 30) (t)				1.00***	1.00***
Years since Migration[b] (t)				1.09***	1.07**
Years since Migration Squared[b] (t)				0.999**	0.998
Married (t)				4.15***	2.80***
Years of Education (t)				1.06**	1.06***
Household Income 10,000€/year (t)				1.25***	1.14***
N persons	4,153	4,153	4,153	4,153	14,252
N person-years	33,163	33,163	33,163	33,163	96,456
N events	701	701	701	701	3,613
Log Likelihood	-3,316.0	-3,261.1	-3,238.8	-3,078.9	-14,163.7
LR chi²	182.3	274.2	324.5	533.9	2,034.9
Pseudo R^2	0.024	0.040	0.047	0.094	0.081

Note. (t) = time varying; output for duration dummies omitted
a. Indicated as zero for Ethnic Germans
b. Indicated as zero for Native Germans
c. Model 5 includes also native Germans.
** p < 0.05; ** p < 0.01, *** p < 0.001*
Database: GSOEP 1984-2008

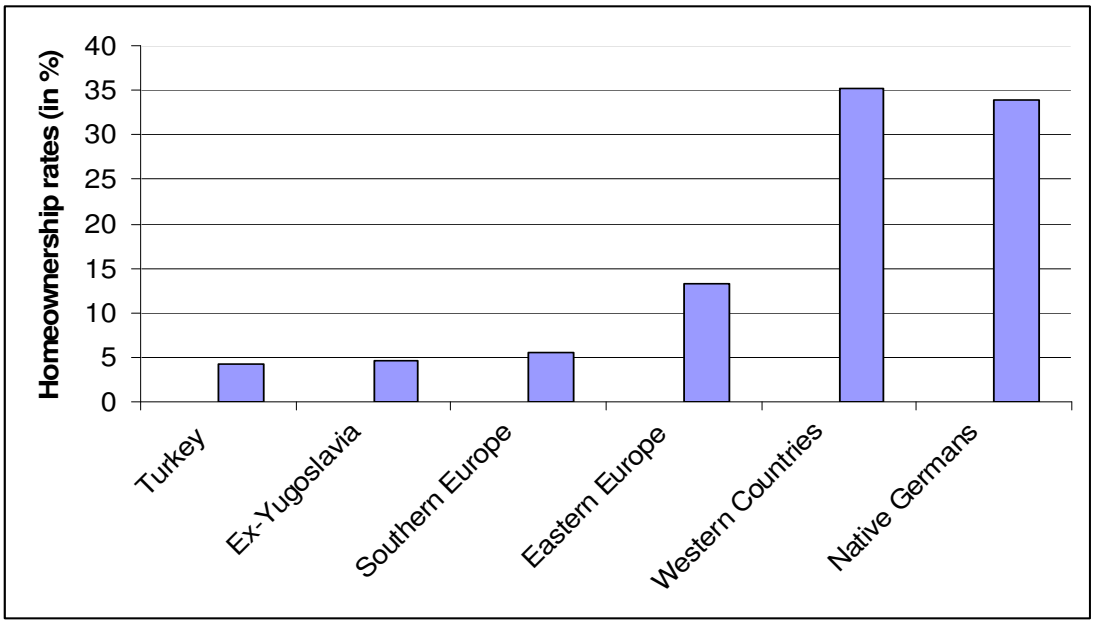

Figure 1: Rates of homeownership (in %) among immigrant groups and native Germans in the first year observed in the GSOEP (West Germany) 1984-2008

Footnotes:

[1] East Germany, which was under a communist regime until 1989 with its different policies and immigration structure, is not considered in this study.

[2] In this study we refer to immigrants as foreign-born including those who received German citizenship. This definition comprises 'Aussiedler', that is, it includes ethnic and nonethnic Germans, and does not comprise second-generation immigrants who were born in Germany.

[3] In addition, some 5 million Aussiedler entered Germany since the 1950s.

[4] 1973 was the 'Anwerbestop', i.e. the closing down of recruitment centres abroad, primarily in Istanbul and Belgrade.

[5] In the last decade there has been a remarkable increase of immigration inflow from Poland (OECD, 2008). However, these figures apply for both parts of Germany (East and West).

[6] "The data used in this paper was extracted from the SOEP database provided by the DIW Berlin (http://www.diw.de/soep) using the Add-On package SOEPMENU for Stata(TM). SOEPMENU (http://www.soepmenu.de) was written by Dr. John P. Haisken-DeNew (john@soepmenu.de). See Haisken-DeNew and Hahn (2006) for details. The SOEPMENU generated Do file to retrieve the SOEP data used here is available from the authors upon request. Any data or computational errors in this paper are our own."

[7] This choice enables us to analyze all immigrant respondents who are potentially active in the labor force. Above we indicate how we define immigrants in this study.

[8] The group of Southern European countries includes: Italy, Spain, Portugal, and Greece. The group of Eastern European countries includes: Romania, Poland, Hungary, Bulgaria, Czech Republic, Russia, Kazakhstan, Albania, Kyrgyzstan, Ukraine, Tajikistan, Uzbekistan, Croatia, Bosnia-Herzegovina, Macedonia, Slovenia, Slovakia, Belarus, Kosovo-Albania, Georgia and a separate category in the data set named "Eastern Europe". The group of western countries includes: Austria, France, Benelux, Denmark, Great Britain, Sweden, Finland, Switzerland, USA, Canada, Luxembourg, Belgium and Holland. The three groups are rather homogenous in terms of homeownership rates and main sociodemographic characteristics. Since immigrants from Turkey constitute a large group they are treated separately.

[9] Following previous studies, YSM and YSM Squared were set to zero for native Germans.

[10] Age and YSM do not perfectly correlate because of differential lengths of episodes and different starting points of observation.

[11] For an appropriate estimation of standard errors we applied variance estimates that assume observations belonging to a particular person not to be independent. To do this, we applied Stata's 'robust' option for standard errors (logistic regression), defining clustering on person number. We also tested clustering on household numbers, which leads to extended confidence intervals, but does not alter the significance levels of the reported results.

[12] It should be noted that none of the Eastern Europeans was from the former German Democratic Republic (GDR). The small group of people in the sample born in the former GDR was defined as natives.

[13] We reanalyzed the models controlling for the size of the community of living. Previous findings (e.g., Sinnig, 2006) have indicated that in larger communities, where immigrants preferred to settle, the acquisition of a home is more difficult

because of more expensive housing prices. Our findings after controlling for the size of the community remained essentially the same.

[14] Our findings illustrate determinants of transition into homeownership of foreign-born and natives. As previously noted, the foreign group category includes people with and without a German citizenship who may or may not be ethnic Germans. Therefore, in addition, the analysis controls for both German citizenship and being an ethnic German and the effect of origin is, thus, net of the effect of German citizenship and ethnicity. The interpretation of results should be considered in light of these definitions.